

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1(Original). A method for amplifying a nucleic acid, the method comprising the steps of:

(A) preparing a reaction mixture selected from:

(a) a nucleic acid as a template, a deoxyribonucleotide triphosphate, a DNA polymerase having a strand displacement activity, at least two chimeric oligonucleotide primers, at least one ladder-forming oligonucleotide primer and an RNase H; or

(b) a nucleic acid as a template, a deoxyribonucleotide triphosphate, a DNA polymerase having a strand displacement activity, at least two chimeric oligonucleotide primers and an RNase H, wherein one of the chimeric oligonucleotide primers serves as a ladder-forming oligonucleotide primer,

wherein each chimeric oligonucleotide primer contains a ribonucleotide as well as at least one selected from the group consisting of a deoxyribonucleotide and a nucleotide analog, and the ribonucleotide is positioned at the 3' terminus or on the 3'-terminal side of the primer,

wherein the chimeric oligonucleotide primers comprise at least a first chimeric oligonucleotide primer which is complementary to a nucleotide sequence of the nucleic acid as a template and a second chimeric oligonucleotide primer which is homologous to a nucleotide sequence of the nucleic acid as a template, and

wherein the ladder-forming oligonucleotide primer has a sequence complementary to a region of the nucleic acid as a template that is complementary to the first chimeric oligonucleotide primer and/or a nucleotide sequence 3' to said region, and has, on its 5' side, a sequence complementary to: a nucleotide sequence on the 5' side of the second chimeric oligonucleotide primer which is homologous to the nucleic acid as a template; a nucleotide sequence of the nucleic acid as a template corresponding to a region 5' to the 5' terminus of the portion homologous to the second chimeric oligonucleotide primer; or both; and

(B) incubating the reaction mixture for a sufficient time to generate a ladder-like amplification product under constant-temperature conditions under which specific annealing of the primer to the nucleic acid as a template, a reaction of synthesizing an extended strand and a strand displacement reaction by the DNA polymerase, as well as a reaction of cleaving an extended strand by the RNase H take place.

2(Original). The method according to claim 1, wherein the nucleic acid as a template is an RNA, and the nucleic acid is treated beforehand with a deoxyribonucleotide triphosphate, a DNA polymerase having a reverse transcription activity and at least one ladder-forming oligonucleotide primer to convert the nucleic acid into a reverse transcription product.

3(Original). The method according to claim 1, wherein the reaction mixture in step (A) further contains a DNA polymerase having a reverse transcription activity.

4(Original). The method according to claim 2 or 3, wherein the nucleic acid as a template is an mRNA.

5(Original). The method according to claim 2 or 3, a single DNA polymerase having a reverse transcription activity and a strand displacement activity serves as the DNA polymerase having a reverse transcription activity and the DNA polymerase having a strand displacement activity.

Claims 6 and 7 (Cancelled).

8(Original). A method for detecting a target nucleic acid, the method comprising the steps of:

(a) amplifying a target nucleic acid according to the method for amplifying a nucleic acid defined by claim 1;
and

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(b) detecting the target nucleic acid amplified in the above step.

Claim 9(Cancelled).

10(Previously presented). The method according to claim 1, wherein the chimeric oligonucleotide primers used in the method contain the ribonucleotide at the 3' terminus of the primer.